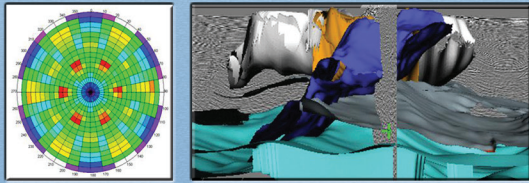


SEG 2010

Summer Research Workshop



*Subsalt Exploration and Development:
Four years later...
what's new in acquisition,
imaging and interpretation?*

Portions of the workshop sponsored by:



**Resort at Squaw Creek
Lake Tahoe, CA**

26–29 July 2010

Monday, 26 July 2010

3:30–5 p.m.Registration
6–9 p.m.Welcome Reception

Tuesday, 27 July 2010 MORNING SESSIONS

Session Chairs ..Acquisition and Illumination, Biondo Biondi (Stanford) and Scott Morton (Hess)

8–8:25Recent Trends in Offshore Subsalt Exploration: More Data, Less Model, Guillaume Cambois (PGS) keynote

8:25–8:45.....New Acquisition Solutions for Deep Water Seismic Exploration, Nick Moldoveanu (WesternGeco)

8:45–9:05.....Visibility Analysis for Optimal Imaging of the Target Areas, Shengwen Jin (Halliburton Landmark)

9:05–9:25.....Quest for Subsalt Steep Dips, Chu-ong Ting (CGGVeritas)

9:25–9:45.....General Discussion

9:45–10:05.....Coffee Break

Session Chairs ..Case Histories - Subsalt Imaging, Graham Winbow (ExxonMobil) and Dave French (Shell)

10:05–10:30Subsalt Exploration and Development: Fifteen Years Later ... Four Years Later... Four Years From Now...., Scott Mitchell (BP) keynote

10:30–10:50.....Seismic Velocity Sensitivity Analysis: Gulf of Mexico Example, Pony Field, Ryan Mann (Hess)

10:50–11:10.....Subsalt Imaging for Deep Offshore Exploration and Appraisal in Gulf of Guinea: Key Factors of Success, Bertrand Duquet (Total)

11:10–11:30.....Subsalt Imaging of a Deep Water GoM Prospect-Detailed Velocity Model Building via Integration of Geology and Geophysics, Shawna McLallen (Statoil)

11:30–11:50.....General Discussion

12:00–1:30.....Lunch

AFTERNOON SESSIONS

Session Chair....Case Histories - Geologic Interpretation, Jacques Leveille and Bin Wang (TGS)

1:30–1:55Ultra-Deep Water Pre-Salt Reservoirs, Santos Basin, Brazil: Exploration History and Challenges, Jeferson Dias (Petrobras) - keynote

1:55–2:15.....Structural Styles Related to Salt Tectonics in the Scotia Basin, Eastern Canada, Markus Albertz (ExxonMobil)

2:15–2:35.....Campos Basin Subsalt Depositional Systems, A Case History, Paulo Dal Cere (Starfish Oil&Gas)

2:35–2:55.....Improvement In Subsalt Imaging Through Interpretation Driven Velocity Model Building, Gabriel Ritter (CGGVeritas)

2:55–3:15.....General Discussions

3:15–3:35.....Coffee Break

Session Chair....Controlled Source EM, Michael Frankel (EMGS)

3:35–4:00Non-Seismic Imaging in Salt Basins, Leonard Srnka (ExxonMobil) keynote

4:00–4:20.....Salt Body Imaging Using Wide Azimuth Marine CSEM, Anh Kiet Nguyen (EMGS)

4:20–4:40.....CSEM Modeling of the SEAM Resistivity Model, Friedrich Roth (EMGS)

4:40–5:00.....Geophysical Imaging of Joint Data Sets and Attributes: Applications to Subsalt Exploration, Gregory Newman (Lawrence Berkeley National Lab)

5:00–5:20.....General Discussions

Wednesday, 28 July 2010 MORNING SESSIONS

Session Chairs ..Velocity Model Building, Jerry Young (CGGVeritas) and Frederic Billette (BP)

8:00–8:25.....When Image and Reality Do Not Match: The Real Issues of Drilling and Completion in the Sub Salt Arena, Andrew Hawthorn (Schlumberger) keynote

8:25–8:45.....Fast 3D Velocity Updates Using the Pre-stack Exploding Reflector Model, Claudio Guerra (Stanford)

8:45–9:05.....Velocity Analysis: Spatial Resolution in Reflection Tomography, Graham Winbow (ExxonMobil)

9:05–9:25.....Migration Velocity Analysis Using the Common Image Cube (CIC), Saleh Al-Saleh (Saudi Aramco)

9:25–9:45.....General Discussions

9:45–10:05.....Coffee Break

Session Chairs ..Subsalt Velocity Model Building, Ross Hill (Chevron) and Zvi Koren (Paradigm)

10:05–10:25.....RTM 3D Gathers: A New Tool for WAZ Subsalt Imaging, Yan Huang (CGGVeritas)

10:25–10:45.....Multi-parameter Joint Tomography for Tilted Transverse Isotropy Model Building, Chaoguang Zhou (PGS)

10:45–11:05.....Subsalt Velocity Analysis by Target-Oriented Wavefield Tomography, Yaxun Tang (Stanford)

11:05–11:25.....Preliminary Results of Three-Dimensional Traveltime Tomography on Subsalt, Donghong Pei (Halliburton)

11:25–11:45.....General Discussions

**AFTERNOON SESSION
No Technical Program**

Thursday, 29 July 2010

MORNING SESSIONS

Session Chairs ..Wide-Azimuth and Full-Azimuth Imaging, *Dimitri Bevc (FusionGeo) and Paul Singer (Statoil)*

8:00–8:25.....**Enhanced Pre-Stack Depth Imaging of Wide-Azimuth Data from the Gulf of Mexico: A Case History,** *Zhiming Li (TGS) keynote*

8:25–8:45.....**Full Azimuth TTI Imaging of Sub-Salt Structure,** *Joe Zhou (GXT/ION)*

8:45–9:05.....**Seismic Technology Evolution Over the Past 10 Years Illustrated on the Freedom Discovery,** *Frederic Billette (BP)*

9:05–9:25.....**Specular/Diffraction Imaging by Full Azimuth Subsurface Angle Domain Decomposition,** *Zvi Koren (Paradigm)*

9:25–9:45.....General Discussions

9:45–10:05.....Coffee Break

Session Chairs ..Seismic Imaging Solution, *Paul Williamson (Total) and Robert Bloor (GXT)*

10:05–10:25.....**Subsalt Imaging-The Next Chapter,** *Jerry Kapoor (WesternGeco)*

10:25–10:45.....**Dirty Salt Velocity Inversion,** *Shuo Ji (CGGVeritas)*

10:45–11:05.....**Why It Is Essential to Apply Borehole Seismic Data to Sub-salt Imaging,** *James Chao (Statoil)*

11:05–11:25.....**Efficient TTI Imaging of Wide-Azimuth Seismic Data,** *Nizar Chemingui (PGS)*

11:25–11:45.....General Discussions

12:00–1:30.....Lunch

AFTERNOON SESSION

Session Chairs ..New Technology/ Techniques, *Ricardo Rosa (Petrobras) and Bertrand Duquet (Total)*

1:30–1:55.....**Inverse Scattering Series Direct Depth Imaging Without the Velocity Model: Towards a Response to Pressing Imaging Challenges,** *Art Weglein (U of Houston) keynote*

1:55–2:15.....**CRS Tomography and CRS Gathers for Improving 3D Salt Resolution in Depth,** *Juergen Pruessmann (TEEC)*

2:15–2:35.....**Fourier Finite Differences and Lowrank Approximation for Reverse-Time Migration,** *Xiaolei Song (UT-Austin)*

2:35–2:55.....**Joint Salt Proximity Estimation and Interferometric Imaging,** *Martin Karrenbach (SR2020)*

2:55–3:15.....General Discussions

3:15–3:35.....Coffee Break

3:35–3:55.....**Investigation of Deep Water GOM Subsalt Imaging Using Anisotropic Model, Dataset and RTM PSDM - Tempest,** *David Kessler (SeismicCity)*

3:55–4:15.....**Efficiency Analysis of Converted-Path for Subsalt Imaging by Elastic Wave Migration,** *Rui Yan (UC-Santa Cruz)*

4:15–4:35.....**Study and Application of Seismic Attenuation Based on One-Way Wave Equation,** *XiaoYin Bai (PetroChina)*

4:35–4:55.....General Discussions

POSTERS SESSIONS

Seismic and Non-Seismic Imaging Techniques

► **Integrated Subsalt Imaging Approach: The Medjerda Case Study - Northern Tunisia,** *Adnen Amiri (U-Tunis)*

► **The Challenges Faced and New Opportunities That Arose on the Road to Direct Depth Imaging Without the Velocity Model: An Unanticipated and Immediate AVO By-Product (Responding to Pressing Type 1 and Type 2 AVO Challenges) Delivered Within the ISS Imaging Program,** *Xu Li (U of Houston)*

► **"Wave Theoretic Preprocessing for Data Reconstruction, Wavelet Estimation and Deghosting to Allow the ISS Methods for Multiple Removal and Depth Imaging to Realize Their Potential and Impact: Methods, Examples and Added-Value",** *Jim Mayhan (U of Houston)*

► **"How to Develop Imaging Algorithms, by Locating and Capturing Terms within the Inverse Scattering Series that Respond to Specific Imaging Challenges: Providing New Imaging Capability for Larger Differences Between Actual and Reference Velocity in a Multi-Parameter Earth,** *Zhiqiang Wang (U of Houston)*

► **Understanding Salt Tectonics - Insight from Gravity Data Analysis (Dome Zone, Northern Tunisia),** *Imen Hamdi Nasr (U-Tunis)*

► **Gravity Interpretation as Support to Understanding the Salt Tectonic Deise from the Lansarine-Baouala Range (Diapir Zone, Northern Tunisia),** *Sarsar Naouali (U-Tunis)*

SEG 2010 Summer Research Workshop Organizing Committee

Bin Wang, Chair (TGS)

Dimitri Bevc (FusionGeo)

Paul Williamson (Total)

Graham Winbow (ExxonMobil)

Ricardo Rosa (Petrobras)

Biondo Biondi (Stanford U)

Ian Jones (ION-GXT)

Jacques Leveille



Society of Exploration Geophysicists
The international society of applied geophysics

8801 S. Yale Ave., Ste. 500 • Tulsa, OK 74137-3575
+1-918-497-5500 • Fax +1-918-497-5557

<http://www.seg.org>